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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/779,875	02/08/2001	Neil Singer	0162095-0011	7119

24280 7590 03/06/2006

CHOATE, HALL & STEWART LLP  
TWO INTERNATIONAL PLACE  
BOSTON, MA 02110

EXAMINER
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WONG, KIN C

ART UNIT	PAPER NUMBER
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2651

DATE MAILED: 03/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/779,875

Applicant(s)

SINGER ET AL.

Examiner

K. Wong

Art Unit

2651

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 7/8/05.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 102 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 102 are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

This is a response to remarks filed on 7/8/05 and 12/23/05. Upon further consideration an election/restriction in 360/78.09 and in view of remarks filed on 12/23/04 where applicants admitted inventions and species.

***Election/Restrictions***

This application contains claims directed to the following patentably distinct species:

Species 1: claims 1-17, 33, 34 and 38-54 are directed to controlling the movement of a dynamic system (disk drive) in rigid and flexible modes;

Species 2: claims 23-30 and 55-61 are directed to modal analysis in a plural mode model of the dynamic system;

Species 3: claims 31, 32, 35-37 and 62-63 are directed to the determination of the system vibrations in a dynamic system;

Species 4: claims 64-67 are directed to model the system with position, system input and unwanted vibration in a dynamic system;

Species 5: claim 68 is directed to command current shaping in a dynamic system;

Species 6: claims 69-76 and 77-83 are directed to feedforward noise control in a data storage device;

Species 7: claim 84 is directed to input shaping for identifying the system vibrations in a dynamic system;

Species 8: claim 85 is directed to input vibration suppression in a dynamic system;

Species 9: claim 86 is directed to determining servo output that stored in memory with the shaped trajectory in a dynamic system;

Species 10: claims 87-88 are directed to shaping a saturated input command with preset trajectory in a dynamic system;

Species 11: claims 89-94, 95-96 and 98-101 are directed to generating a command that based on the fundamental parameter limit in a dynamic system;

Species 12: claim 97 is directed to identifying the input command of the dynamic system and shaping the input based on the command and the vibration in a dynamic system;

Species 13: claim 102 is directed to linearly rescaling the input of a dynamic system with vibration in a dynamic system.

The species are independent or distinct because each species is a stand-alone invention in a dynamic system as admitted by the applicant in the remark of 2/23/04.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, no claim is generic.

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim

is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which depend from or otherwise require all the limitations of an allowable generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).


Any inquiry concerning this communication or earlier communications from the examiner should be directed to K. Wong whose telephone number is (571) 272-7566.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, H. Nguyen can be reached on (571) 272-7579. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

kw

15 Feb 06

  
PRIMARY EXAMINER